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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,060	02/20/2004	Janghyun Choi	CHOI-102	6827

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EXAMINER	
TUROCY, DAVID P	
ART UNIT	PAPER NUMBER
1762	

DATE MAILED: 01/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/784,060	CHOI ET AL.	
	Examiner	Art Unit	
	David Turocy	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *20 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicants amendments, filed 12/20/2004, have been fully considered and reviewed by the examiner. The examiner acknowledges the amendment to include "consisting essentially of", which is defined as excluding any ingredients that affect the basic properties of the alloy coating, but open to any ingredients that do not affect the properties of the coating. Claims 1-4 pending.

Response to Arguments

2. Applicant's arguments filed 12/20/2004 have been fully considered but they are not persuasive.

The examiner acknowledges the applicant's assertion that the presence of a particular element in a plating bath influences the other elements and therefore provides a plating bath with materially different properties. However, there is nothing of record to establish such an assertion as fact. There is nothing of record to establish that the addition of 1% zinc, as taught by Ito, in the coating bath of the present invention materially affects the basic properties of the bath. In addition, there is nothing on record that the addition of any other component (e.g. molybdenum, boron, titanium, vanadium, or zirconium), in amounts as disclosed by Sprowl, would materially affect the basic properties of the present invention. If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or

components would materially change the characteristics of applicant's invention. *In re De Lajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964).

The applicant has argued against the Sprowl reference, stating that it teaches away from the present invention. The examiner respectfully disagrees. While Sprowl does not teach the ranges as claimed, the ranges as taught by Sprowl are close enough that one of ordinary skill in the art at the time of the invention was made would consider the a composition containing 6% silicon, 0.4% chromium, and 0.45% magnesium exhibit similar properties to a composition containing 7% silicon, 0.5% chromium and 0.46% magnesium. Applicant relying upon comparative showing to rebut prima facie case must provide factual evidence comparing his claimed invention with closest prior art.

The applicant has argued against the Sprowl reference, stating that it fails to specifically illustrate the excellent appearance and properties of the coating bath. However, since Sprowl teaches a similar coating composition using a similar process, it would appear that Sprowl provides the same improvements as taught by the present invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1 -4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 5818855 by Ito et al ('Ito').

As to claim 1, Ito teaches of an aluminum-tin alloy for coating steel containing composition ranges of silicon (1-12%), magnesium (0.1-1%) and chromium (0.01-0.5%). Though the compositions are not disclosed as having the exact relationship claimed by applicant, the reference discloses a range that overlap the ranges as claimed. In the case where the claimed ranges "overlap or lie" inside ranges disclosed by prior art a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257 191 USPQ 90. See MPEP 2144.05. Therefore it would be prima facie obviousness to select any composition within the disclosed range of Ito, including compositions within the ranges as claimed. The examiner acknowledges the showing that assert the benefits of range limitations in the specification, but it is the examiners position that this disclosure as well as Table 1 do not make a comparison with the closest prior art. Applicant relying upon

comparative showing to rebut prima facie case must compare his claimed invention with closest prior art. *In re Merchant,* 197 USPQ 785.

As to claim 2, Ito teaches a similar coating composition using a similar process. Ito teaches of an aluminum-based composite hot-dipped steel sheet where the adhesion quantity is to be 30 g/m^2 or less (claim 2). Though the entire adhesive range is not taught in Ito, the reference does disclose a range, 0-30 g/m^2, which overlaps the ranges as claimed. In the case where the claimed ranges "overlap or lie" inside ranges disclosed by prior art a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257 191 USPQ 90. See MPEP 2144.05. Therefore it would be prima facie obviousness to select any adhesive quantity within the disclosed range of Ito, including an adhesive quantity within the ranges as claimed.

As to claim 3-4, Ito teaches a similar coating composition using a similar process. Ito also discloses, in working example 1, the plating temperature of a aluminum plating bath absent of zinc to be 670 ± 10 °C, which reads on the bathing temperature as required by claims 3 and 4.

6. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 3055771 by Sprowl ('Sprowl')

As to claim 1, Sprowl teaches a method of coating a ferrous base with aluminum base alloys by dipping a steel sheet in molten aluminum base alloy bath consisting essentially of by weight from 1-6% silicon, from 0.1-0.4% chromium, and from 0.05-0.45% magnesium. Sprowl fails to teach an alloy composition containing silicon, from 7

to 15 parts by weight, chromium, from 0.5-1.5 parts by weight, and magnesium, from 0.46 to 3 parts by weight, of the alloy composition. A *prima facie* case of obviousness exists where the claimed ranges and prior art do not overlap but are close enough that one in ordinary skill in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 f.2d 775, 227 USPQ 773 (Fed. Cir. 1985). See MPEP 2144.05. Therefore it would be prima facie obviousness to select any composition within the disclosed range of Sprowl, including compositions that are close enough to the claimed ranges that one of ordinary skill in the art would expect them to have the similar properties. It is the examiners position that a composition containing 6% silicon, 0.4% chromium, and 0.45% magnesium exhibit similar properties to a composition containing 7% silicon, 0.5% chromium and 0.46% magnesium, included within the claimed ranges. The examiner acknowledges the showing that states a benefit of the range limitations in the specification, but it is the examiners position that this disclosure as well as Table 1 do not make a comparison with the closest prior art. Additionally the ranges in Sprowl come close enough to the ranges as claimed to establish a prima facie case of obviousness. Applicant relying upon comparative showing to rebut prima facie case must compare his claimed invention with closest prior art. *In re Merchant,* 197 USPQ 785.

As to claim 2, the phrase "adhesion quantity" is indefinite, however, it appears to refer to some means of adhering a coating and a substrate. Since Sprowl teaches a similar coating composition using a similar process, it would appear that Sprowl shows the same qualities as those claimed.

As to claims 3 and 4, Sprowl teaches that the bath temperature can be 1280°F (693°C), which reads on the bathing temperature of the steel as required by claims 3 and 4 (Col. 2, lines 51-57).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Turocy whose telephone number is (571) 272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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